



DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING COMMAND

200 STOVALL STREET

ALEXANDRIA, VA 22332 2300

Ser 1703/40K4

14 April 1997

From: Commander, Naval Facilities Engineering Command

Subj: FACILITIES SUPPORT CONTRACT (FSC) CONSTRUCTION/ALTERATION/REPAIR  
SAFETY AND HEALTH REQUIREMENTS COURSE

Ref: (a) COMNAVFACENGCOM Ltr Ser 1556/40K4 dtd 28 Dec 95

Encl: (1) List of new questions  
(2) FSC Construction/Alteration/Repair Safety and Health Requirements Course  
(3) FSC Construction/Alteration/Repair Safety and Health Requirements Course Scoring  
Key

1. The 3 September 1996 edition of the US Army Corps of Engineers Safety and Health Requirements Manual, EM-385-I-1, was issued to field locations in January 1997. The FSC Safety and Health Requirements Exam issued in December 1995 has been revised to include new requirements of the 1996 manual. Many questions were reworded and 19 new questions were added. Enclosure (1) provides a list of the new questions added.

2. As required by reference (a) you have been appointed as the FSC Safety and Health Requirements Exam Program Administrator for your activity. As such you are responsible for administrating, tracking, and maintaining records for the FSC exam. Enclosure (2) provides procedures and a copy of the latest exam and enclosure (3) provides the answer key. Enclosure (3) must be protected and maintained by you and is **NOT FOR RELEASE** by you to others.

3. Please contact [REDACTED] if you have any questions, need additional assistance or would like a "Word 6.0" copy of enclosure (2).

[REDACTED]

By direction

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Next Page

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FACILITIES SUPPORT CONTRACT (FSC)  
CONSTRUCTION/ALTERATION/REPAIR SAFETY AND HEALTH  
REQUIREMENTS COURSE

NEW QUESTIONS ADDED

Number:

1.  
  
3.  
  
4.  
  
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7.  
  
13.  
  
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Number:

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98.

# FACILITIES SUPPORT CONTRACT (FSC) CONSTRUCTION/ALTERATION/REPAIR SAFETY AND HEALTH REQUIREMENTS COURSE

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## **Procedures**

This exam is targeted for FSC personnel (ex. OICs, AOICs, FSCMs, and QAEs) who go into the field, unescorted, to inspect or view the contractors work. The students will learn requirements as outlined in U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-I-1, and be able to recognize safety and health hazards on their contract jobs.

The program will be administered and tracked by an appointed person at the EFD, EFA, PWC or CBC. This program administrator, normally located in the activity safety office, will be responsible for administering, tracking, and maintaining records for the FSC exam.

All targeted personnel who have not taken and successfully completed the FSC Construction/-Alteration/Repair Safety and Health Requirements exam or who were certified prior to 1 April 1997 are required to be certified/recertified utilizing the attached examination. Targeted personnel will be provided with a copy of the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-I -1, for their use during the testing period. and the attached 100 question exam.

Students will be given a maximum of six months to complete the 100 question open book exam. A passing grade of 80 must be obtained to receive a certificate of accomplishment. Sample certificate is attached.

Retesting of personnel will be required on future rewrites of the EM 385-I-I and at the discretion of the program administrator

Enclosure (2)



*SAMPLE*

Department of the Navy  
Naval Facilities Engineering Command  
**Certificate of Training**

This is to certify that

***JOHN W. DOE***

***has satisfactorily completed the course of***  
***FSC CONSTRUCTION/ALTERATION/REPAIR SAFETY AND***  
***HEALTH REQUIREMENTS COURSE***  
***given at***

***PWC ANYTOWN***  
***ANY CITY, ANY STATE***

***14 APR 1997***

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***YOUR NAME, PROGRAM ADMINISTRATOR***

**FSC Construction/Alteration/Repair  
Safety and Health Requirements Course**

**Open Book Exam**

Score: \_\_\_\_\_

NAME: \_\_\_\_\_ START DATE \_\_\_\_\_

OFFICE: \_\_\_\_\_

**Instructions: Circle the most appropriate answer. (Optional: Indicate the location of the reference on the reference line.)**

1. On most Construction/Alteration/Repair projects, the Corps or Engineers Health & Safety Manual (COE-385-1-I), 29 CFR 1910, 29 CFR 1926, and other safety and health documents are references. In these cases with multiple references requirements, including Local, State, and Federal references, the \_\_\_\_\_ applies.

- a. COE-3851-1 will apply
- b. 29 CFR 1910 will apply
- c. 29 CFR 1926 will apply
- d. The most stringent will apply
- e. The reference for the agency that is administering the contract will apply

**Reference:** \_\_\_\_\_

2. Each individual employee is responsible for:

- a. Complying with applicable safety requirements
- b. Wearing the prescribed safety equipment
- c. Preventing avoidable accidents
- d. All of the above
- e. Both a and b

**Reference:** \_\_\_\_\_

3. In addition to the requirements of an accident prevention plan, contractor **quality control** personnel - as part of their quality control responsibilities - shall conduct \_\_\_\_\_

- a. Preparatory, initial, **follow-up** inspections
- b. Daily Safety Inspections
- c. Activity Hazard Analysis
- d. Weekly Safety Meetings

**Reference:** \_\_\_\_\_

4. Before beginning each activity involving a type Of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, \_\_\_\_\_ shall be prepared by the contractors performing the work activity.

- a. a Preparatory Inspection
- b. on site training
- c. an Activity Hazard Analysis
- d. **P**rework training

**Reference:** \_\_\_\_\_

5. Work will not begin until the \_\_\_\_\_ **for** the work activity has **been** accepted by the \_\_\_\_\_ designated authority and discussed with all engaged in the activity, including the contractor, subcontractor(s), and Government on-site representatives.

- a. Preparatory Inspection; Contractors
- b. Safety Concerns; Contractors
- c. Preparatory Inspection; Governments
- d. Hazard Analysis; Governments

**Reference:** \_\_\_\_\_

6. The employee indoctrination based on the safety and health program shall include which of the following:

- a. Employee and supervisor responsibilities for reporting all accidents.
- b. Job hazards and the means to **control/eliminate** those hazards.
- c. Requirements and responsibilities for accident prevention and maintaining safe and **healthful** work environments.
- d. Procedures for reporting and correcting unsafe conditions or practices.
- e. All the above.

**Reference:** \_\_\_\_\_

7. Employers and immediate supervisors are responsible for reporting **all** injuries to the \_\_\_\_\_ within \_\_\_\_\_.

- a. Designated Authority; 24 hours
- b. Project Superintendent; 24 hours
- c. Designated Authority; 72 hours
- d. Project Superintendent; 48 hours

**Reference:** \_\_\_\_\_

8. An accident is investigated in depth to:

- a. Identify all causes
- b. Recommend hazard control measures
- c. Determine who was at fault
- d. All of the above
- e. Both a and b

**Reference:** \_\_\_\_\_

9. Accident record keeping requirements call for:

- a. a weekly record of all investigations
- b. a weekly record of all exposures
- c. **a weekly record** of all lost-time injuries
- d. **a** daily record of all injuries
- e. a daily record of all first aid treatments not otherwise reportable

**Reference:** \_\_\_\_\_

10. Emergency telephone numbers and reporting instructions shall be posted at the work site for which of the following?

- a. Ambulance
- b. Physician
- c. Hospital
- d. **Fire**
- e. **All of the above**

**Reference:** \_\_\_\_\_



11. At least two employees on each shift, shall be qualified to administer first aid and CPR when, in terms of time and distance, a medical facility or physician is not accessible within 5 minutes to a group of employees of:

- a. 2 or more
- b. 5 or more
- c. **10 or more**
- d. 20 or more
- e. 50 or more

**Reference:** \_\_\_\_\_

12. The contents of first aid kits shall be checked by the employer to assure that expended items are replaced prior to utilization and at least:

- a. each **shift** when work is in progress
- b. each day when work is in progress
- c. each week when work is in progress
- d. every two weeks when work is in progress
- e. each month when work is in progress

**Reference:** \_\_\_\_\_

13. Temporary project fencing (or a substitute acceptable to the government's designated **authority** and delineated in the accident prevention **plan**) shall be \_\_\_\_\_ on ail projects located in areas used by \_\_\_\_\_ of the \_\_\_\_\_. Consideration will also be given to those areas proximate to family housing areas and/or school facilities.

- a. **used**; personnel; contractor
- b. erected; personnel; contractor
- c. provided; members; public
- d. erected; members; public

**Reference:** \_\_\_\_\_

14. Employees shall wear clothing suitable for the weather and work conditions: the minimum for field work shall be short sleeve shirt, long trousers, and \_\_\_\_\_

- a. hard hat
- b. goggles
- c. leather or other protective work shoes or boots
- d. face shield
- e. all the above

**Reference:** \_\_\_\_\_

15. Department of Defense personnel shall be provided protection against the effects of hazardous noise exposure whenever sound-pressure levels exceed \_\_\_\_\_ dB(A) steady state as a TWA or \_\_\_\_\_ dB(A) impulse.

- a. 70; 80
- b. 85; 110
- c.
- d. 60; 70; 80 160
- e. 85; 140

**Reference:** \_\_\_\_\_

16. When the sound pressure level in a working area exceeds 115 dBA, steady state, the following is required:

- a. Earplugs
- b. Earmuffs
- c. Both earplugs and earmuffs or their equivalent
- d. Caution signs
- e. Both c and d

**Reference:** \_\_\_\_\_

17. Protective headgear shall be worn in which of the following areas?

- a. Construction
- b. Dredging
- c. Demolition/maintenance
- d. All of the above
- e. Both a and c

**Reference:** \_\_\_\_\_

18. Respirators shall not be substituted for engineering or environmental control methods without approval of the.

- a. Supervisor
- b. Contractor
- c. Respiratory manager
- d. Designated Authority
- e. None of the above

**Reference:** \_\_\_\_\_

19. A respirator equipped with a facepiece \_\_\_\_\_ be worn if facial hair comes between the sealing surface of the facepiece and the face, or if facial hair interferes with valve function.

- a. can
- b. will
- c. shall not
- d. may not
- e. All the above

Reference: \_\_\_\_\_

20. In which of the following circumstance(s) can a air purifying respirator be used?

- a. The oxygen content of air is at least 19.5%
- b. There is periodic air monitoring of the work area
- c. The respirator assembly is approved for protection against the specific contaminants
- d. The type and model of respirator to be used has been successfully fit tested on the wearer
- e. All the above

Reference: \_\_\_\_\_

21. All \_\_\_\_\_ confined spaces shall be considered \_\_\_\_\_ to life or health until proven otherwise by testing.

- a. Classified located; hazardous
- b. Untested classified; dangerous
- c. Unknown ~~classified~~; hazardous
- d. Permit required; Immediately dangerous

Reference: \_\_\_\_\_

22. Body belt/harness systems shall decelerate and bring the employee to a complete stop within \_\_\_\_\_, excluding lifeline elongation, after free fall distance.

- a. 1 meter (**42** inches)
- b. 3 meters (9.8 feet)
- c. 5 meters (**16.4** feet)
- d. 7 meters (**23** feet)

Reference: \_\_\_\_\_

23. Lanyards and vertical lifelines shall have a minimum tensile strength of:
- a.
  - b. 2000 kg (4,400 **lbs**)  
2110 kg (4,650 **lbs**)
  - c. 2180 kg (4,800 lbs)
  - d. 2,270 kg (5,000 **lbs**)
  - e. 2450 kg (5,400 lbs)

**Reference:** \_\_\_\_\_

24. When any hazardous substance is procured, used, stored, or disposed, \_\_\_\_\_ for the substances shall be available at the worksite.
- a. Chemical information
  - b. Substance Control Procedures
  - c. Manufacturer's Handling Procedures
  - d. MSDS

**Reference:** \_\_\_\_\_

25. Containers which have been used for hazardous substances may be used for other materials:
- a. After 6 months
  - b. After 12 months
  - c. After 18 months
  - d. If the substances are compatible
  - e. None of the above

**Reference:** \_\_\_\_\_

26. Heating devices or melting kettles shall:
- a. Be placed on a level, firm foundation
  - b. Bituminous-material melting kettles shall be provided with an effective lid or hood
  - c. Not be left unattended
  - d. Have an approved fire extinguisher available at the location of use
  - e. All of the above

**Reference:** \_\_\_\_\_

27. Bituminous-material melting ~~kettles~~ shall not be used or operated inside, atop, or within of buildings or combustible material.

- a. 6 meters, (18 feet)
- b. 8 meters, (25 feet)
- c. 10 meters, (30 feet)
- d. 12 meters, (35 feet)

Reference: \_\_\_\_\_

28. Which statement(s) is not correct when handling hot substances?

- a. Passageways, clear of obstructions, shall be provided for all persons carrying hot substances.
- b. Hot substances can ~~be~~ carried up and down ladders.
- c. Hoist used for raising or lower hot substances, shall be given special attention to ensure that the hoist mechanism is adequate.
- d. a and b
- e. None of the above

Reference: \_\_\_\_\_

29. Containers for handling and transportation of hot substances shall be:

- a. labeled as to content
- b. free from any soldered joints or attachments
- c. not filled higher than 10 cm (4 in) from the top
- d. **b and c**
- e. None of the above

Reference: \_\_\_\_\_

30. Which of the following is not a protective measure for employees that are exposed to poisonous plants?

- a. Soap and water
- b. Natural immunity
- c. Protection ointments
- d. Instruction in identification
- e. Protective clothing

Reference: \_\_\_\_\_

31. A mechanical device shall be ready to retrieve personnel from vertical **PRCSs** more than \_\_\_\_\_ deep.

- a. 1.5 meters, (4) feet
- b. 1.7 meters, (5) feet
- c. 1.8 meters, (6) feet
- d. None of the above

**Reference:** \_\_\_\_\_

32. On an accident prevention sign labeled “DANGER”, the ~~word~~ “DANGER” will appear as what color.

- a. Red
- b. Orange
- c. Yellow
- d. Green
- e. White

**Reference:** \_\_\_\_\_

33. \_\_\_\_\_ shall be the color for identifying dangerous conditions, and containers of flammable liquids.

- a. Red
- b. Orange
- c. Yellow
- d. Green
- e. Black and white

**Reference:** \_\_\_\_\_

34. The slow-moving vehicle emblem shall be used on vehicles or equipment which, by design, move at:

- a. 5 mph or less on public roads
- b. 10 mph or less on public roads
- c. 15 mph or less on public roads
- d. 20 mph or less on public roads
- e. 25 mph or less on public roads

**Reference:** \_\_\_\_\_

35. Accident prevention tags warning employees of defective tools, equipment, and lockout shall be:

- a. Made of metal or plastic
- b. Green in color
- c. Used only **as a** temporary means
- d. **Conform to Title 10, Part 20, Code of Federal Regulations**
- e. All **of the** above

Reference: \_\_\_\_\_

36. **All** sources of ignition shall be prohibited within \_\_\_\_\_ of operation with a potential fire hazard: the area shall be conspicuously and legibly posted NO **SMOKING OR OPEN FLAME**.

- a. **15 m (50ft)**
- b. **30 m (100 ft)**
- c. 46 m (150 ft)
- d. 61 m (200 ft)
- e. All the above

Reference: \_\_\_\_\_

37. Smoking shall be prohibited in all areas where flammable, combustible, or oxidizing materials are stored. Signs will be posted and state which of the following?

- a. **NO SMOKING**
- b. **NO OPEN FLAMES**
- c. NO SMOKING OR OPEN FLAMES
- d. SMOKING PROHIBITED
- e. None of the above

Reference: \_\_\_\_\_

38. No flammable liquid with a (closed cup test) flash point below \_\_\_\_\_ shall be used for cleaning purposes or to start or rekindle fires.

- a. 23°C (73°F)
- b. 38°C (100°F)
- c. 49°C (120°F)
- d. 63°C (145°F)
- e. 100°C (212°F)

Reference: \_\_\_\_\_

39. Safety cans or other portable service containers of flammable liquids having a flash point at or below 23°C (73°F) shall:

- a. be painted red with a yellow band around the can
- b. be painted yellow with red diagonal stripes around the can
- c. have the name of the contents legibly indicated on the container
- d. a and c
- e. b and c

Reference: \_\_\_\_\_

40. Unopened containers of paint shall be stored in:

- a. tightly sealed storage locker or closet
- b. quantities of less than one weeks supply in buildings under construction
- c. a maximum distance of 10 feet or more from stairways
- d. a well-ventilated location, free of excessive heat, smoke, sparks, flame, or direct rays of the sun
- e. None of the above

Reference: \_\_\_\_\_

41. All tanks, hoses, and containers of 19 L (5 gal) or less, while flammable liquids are being transferred, shall be:

- a. in metallic contact
- b. securely insulated
- c. bonded and grounded
- d. made of explosion-proof materials
- e. vented

Reference: \_\_\_\_\_

42. Areas in which flammable or combustible liquids are transferred, in quantities greater than 19 L (5 gal), from one container to another:

- a. shall be separated from other operations by 10 feet
- b. shall be separated from other operations by a fire wall with a fire resistance of four hours
- c. either a or b
- d. shall be provided with drainage to control spills
- e. shall be so ventilated as to maintain vapor concentrations below 50% of the lower explosive limit

Reference: \_\_\_\_\_



43. Heaters used near combustible tarpaulins, canvas, or similar coverings shall be located at least \_\_\_\_\_ from covering.

- a. 3m (10 ft)
- b. 4.5 m (15 ft)
- c. 6 m (20 ft)
- d. 7.6 m (25 ft)
- e. None of the above

Reference: \_\_\_\_\_

44. Approved fire extinguishers shall:

- a. **be** approved by a nationally recognized testing laboratory and labeled to identify the listing and labeled organization
- b. **be** marked with their letter (class of fire) and numeric classification
- c. not use Carbon Tetrachloride or water extinguishing agents
- d. **b and c**
- e. a and b

Reference: \_\_\_\_\_

45. Clearance of at least \_\_\_\_\_ shall be maintained between the top of stored material and sprinkler deflectors.

- a. **46 cm** (18 inches)
- b. 91 cm (36 inches)
- c. 122 cm (48 inches)
- d. 152 **cm** (60 inches)
- e. 183 cm (72 inches)

Reference: \_\_\_\_\_

46. In multiple-story facilities, at least one extinguisher shall be adjacent to:

- a. external exits
- b. electrical supply boxes
- c. stairways
- d. **a and b**
- e. None of the above

Reference: \_\_\_\_\_

47. Either general mechanical or local exhaust ventilation shall be provided whenever welding, cutting, or heating is performed in a

- a. open structure
- b. confined open ladder
- c. confined space
- d. None of the above

**Reference:** \_\_\_\_\_

48. Which of the following flexible cords/cables are designed for damp locations?

- a. Thermoset-jacketed heat resistant cord (AFS)
- b. Thermoset-jacketed heater cord (HS)
- c. Hard service cord (STOO)
- d. Junior hard service cord (SJE)
- e. All the above

**Reference:** \_\_\_\_\_

49. Splices are allowed in flexible cables when:

- a. Cable is hard service flexible cable No. 10 or larger with molded or vulcanized splices
- b. Cable is recommended for damp locations
- c. Cable height is 7 feet or more
- d. Both a and c
- e. Cable is hard service flexible cable No. 12 or larger with molded or vulcanized splices

**Reference:** \_\_\_\_\_

50. Attachment plugs and other connectors supplying equipment at more than \_\_\_\_\_ volts shall be skirted or otherwise designed so that arcs will be confined.

- a. 100
- b. 150
- c. 220
- d. 300
- e. 500

**Reference:** \_\_\_\_\_

51. Which of the following need **not** be grounded?

- a. floodlights
- b. Double insulated tools
- c. Fuse boxes
- d. Semi-portable equipment
- e. None of the above

**Reference:** \_\_\_\_\_

52. Crane operations adjacent to overhead 50 kv lines are prohibited unless:

- a. power has been shut off and positive means taken to prevent the lines from being energized
- b. a 1.2 m (4 ft) clearance is maintained
- c. a 3 m (10 ft) **clearance** is maintained
- d. **Either** a or b
- e. **Either** a or c

**Reference:** \_\_\_\_\_

53. Which of the following statement/s is most correct concerning work activities which could affect or be affected by overhead lines:

- a. Greatest care shall be taken
- b. Rubber mats are optional
- c. The machinery or equipment will be grounded
- d. The job shall not be initiated until coordinated **with** the appropriate **utility** officials
- e. None of the above

**Reference:** \_\_\_\_\_

54. The minimum required clearance from power lines can be reduced on cranes equipped with:

- a. **Cage** boom guards
- b. Insulating links
- c. Proximity warning devices
- d. **Either** b or c
- e. None of the above

**Reference:** \_\_\_\_\_

55. Before climbing poles, ladders, scaffolds or other elevated structures:
- a. An inspection shall determine that the structures are capable of sustaining the additional or unbalanced stresses to which they will be subjected
  - b. The pole shall be made safe by guying, bracing, or other means
  - c. **Action shall be** taken as necessary to prevent failure of poles prior to removing or installing wire or cable
  - d. All of the above
  - e. Both a and b

Reference: \_\_\_\_\_

56. On underground electrical installations, maintenance holes and unvented vaults shall be treated as, and subjected to the requirements of \_\_\_\_\_

- a. confined space
- b. unattended substation
- c. energized substation
- d. a and b

Reference: \_\_\_\_\_

57. Which of the following best describe the term “HIGH VOLTAGE”?

- a. **600 volts** or greater
- b. 500 volts or greater
- c. **400 volts** or greater
- d. All the above
- e. None of the above

Reference: \_\_\_\_\_

58. Which of the following statement/s is incorrect when tagout devices are being utilized?

- a. Tags must be legible and understood by all authorized and affected employees and incidental personnel.
- b. Tags and their means of attachment must be made of materials which withstand the environment.
- c. Tags essentially provide the same protection as locks.
- d. Tags shall not be by-passed.
- e. Both a and d.

Reference: \_\_\_\_\_

59. All abrasive wheels shall be closely inspected and ring-tested before mounting. Cracked or damaged grinding wheels shall be:

- a. **properly dressed**
- b. balanced by truing
- c. run not **more** than 2500 sfpm
- d. run not more than 5000 **sfpm**
- e. destroyed

Reference: \_\_\_\_\_

60. All portable, power-driven circular saws shall:

- a. **be** equipped with guards above and below the baseplate or shoe
- b. be double insulated
- c. have the operating speed etched or permanently marked in a prominent place
- d. be equipped with anti-kickback devices
- e. be equipped with sawdust collector

Reference: \_\_\_\_\_

61. Explosive actuated tools shall not be driven into:

- a. soft or easily penetrable materials unless they are backed by a material that will prevent the fastener from passing through the other side
- b. concrete, unless the material thickness is at least three times the penetration of the fastened shank
- c. cast iron
- d. All of the above
- e. Both a and b

Reference: \_\_\_\_\_

62. A chain saw must never be used to cut at a height:

- a. **above the** operator's waist
- b. below the operator's knees
- c. **above the** operator's shoulders
- d. **above the** operator's shoulders, except when using both hands
- e. over the operator's head, except when using both hands

Reference: \_\_\_\_\_

63. Reusable lumber shall:
- a. be stacked a maximum of 10 feet high
  - b. be stacked to be stable and self-supporting
  - c. have all nails withdrawn before it is stacked for storage
  - d. All of the above
  - e. Both b and c

**Reference:** \_\_\_\_\_

64. Work areas shall be inspected \_\_\_\_\_ for adequate housekeeping and **sufficient personnel/equipment** provided to insure compliance. No work will be allowed in any areas that are not in compliance with good housekeeping.

- a. **weekly**
- b. daily
- c. twice weekly
- d. Monthly

**Reference:** \_\_\_\_\_

65. Storage and construction sites shall be kept free from the accumulation of combustible materials, such as:

- a. weeds and grass shall be kept down
- b. a regular procedure shall be established for cleanup of the area as specified by the designated authority
- c. rubbish, brush, long grass, or other combustible material shall kept from areas where flammable and combustible liquids are stored, handled, or processed
- d. All the above
- e. None of the above

**Reference:** \_\_\_\_\_

66. Waste material and rubbish:

- a. can be dropped only **12** feet without using a chute
- b. an be dropped only 8 feet without using a chute
- c. shall be placed in containers
- d. shall be placed in covered metal containers
- e. Both b and d

**Reference:** \_\_\_\_\_

67. Separate covered, self closing, non-flammable/non-reactive containers shall be provided for the collection of:

- a. **garbage**
- b. dangerous wastes
- c. scrap lumber
- d. All of the above
- e. Both a and b

**Reference:** \_\_\_\_\_

68. Rigging equipment for material handling shall be inspected:

- a. prior to use on each **shift**
- b. at least once a week
- c. as necessary during its use
- d. **a and c**
- e. **b and c**

**Reference:** \_\_\_\_\_

69. In materials lifting, the hoist rope may be wrapped around the load:

- a. when setting or removing poles in electric construction
- b. when moved under or near energized lines
- c. when a **tagline** is used
- d. when it will not be moved over or suspended above personnel
- e. None of the above

**Reference:** \_\_\_\_\_

70. Wire rope clips attached with U-bolts shall:

- a. have the **U-bolts** on the dead or short end of the rope
- b. with the U-bolt of all dips on the live end of the rope
- c. always using three clips
- d. **All of the above**
- e. Both a and c

**Reference:** \_\_\_\_\_

71. Slings, their fittings, and fastenings, shall be inspected:

- a. prior to use on each shift
- b. daily
- c. weekly
- d. as necessary during its use
- e. Both a and d

Reference: \_\_\_\_\_

72. In determining the safe working loads of the various sizes and types of specific and identifiable hooks:

- a. **the** designated authority shall make the determination
- b. ANSI B7.1 shall be followed
- c. ~~the~~ manufacturer's recommendations shall be followed. If no recommendations are available, hooks shall be tested to twice intended safe working load before they are used
- d. a safety factor of not less than 10 shall be maintained
- e. Both b. and d.

Reference: \_\_\_\_\_

73. There shall be at least \_\_\_\_\_ full wrap(s) of rope on the drums of hoisting equipment at all times.

- a. 1
- b. **3**
- c.
- d. 46
- e. 8

Reference: \_\_\_\_\_

74. **Eyebolts** shall only be loaded in the plain of the eye and shall not be loaded at angles of less than \_\_\_\_\_ to the horizontal.

- a. 15 degrees
- b. 20 degrees
- c. 30 degrees
- d. **45** degrees
- e. None of the above

Reference: \_\_\_\_\_



75. Before any machinery or mechanized equipment is placed in use, it shall be inspected and tested:

- a. by the manufacturers representative
- b. by a competent person
- c. by the designated authority
- d. by the operator
- e. **as directed** in ANSI B.30.5.

**Reference:** \_\_\_\_\_

76. Machinery having defects that will impair their strength or render them unsafe shall be:

- a. repaired immediately
- b. repaired by the maintenance shop
- c. removed from service
- d. Both a and b
- e. None of the above

**Reference:** \_\_\_\_\_

77. Machinery and mechanized equipment shall be inspected daily (when in use). Equipment deficiencies observed at any time that affect their safe operation shall be:

- a. reported on the designated form
- b. reported on the next daily inspection
- c. reported to the mechanic
- d. immediately taken out of service until unsafe conditions have been corrected
- e. None of the above

**Reference:** \_\_\_\_\_

70. Every crane shall have available a load rating chart for that crane. It shall include which of the following?

- a. Crane make and model, serial number and year of manufacturer
- b. Load rating for all crane configurations, including optional equipment
- c. Operating limits in windy or cold weather conditions
- d. Recommended reeving for the hoist line
- e. All the above

**Reference:** \_\_\_\_\_

79. The minimum qualifications for operators of hoisting equipment shall be:

- a. passing a practical operating examination
- b. adequate hearing
- c. no evidence of emotional instability
- d. All of the above
- e. Both a and b

**Reference:** \_\_\_\_\_

80. Riding on loads, hooks, hammers, buckets, or material hoists is prohibited except when:

- a. necessary to balance a load
- b. necessary to secure a load
- c. necessary for a worker to be able to unhook a load
- d. ~~Either~~ a or c
- e. None of the above

**Reference:** \_\_\_\_\_

81. The following shall be provided within a mobile crane operators view:

- a. A boom angle or radius indicator
- b. A rotation indicator
- c. Proximity warning devices
- d. All of the above
- e. Both b and c

**Reference:** \_\_\_\_\_

82. Obstructions or projections into accessways which are pointed, sharp, or which may cause lacerations, contusions, or abrasions shall be:

- a. Removed or conspicuously marked
- b. Posted with warning signs and painted yellow
- c. Covered with protective material
- d. Removed, or the accessway or passageway shall be barricaded off
- e. Barricaded

**Reference:** \_\_\_\_\_

83. Toeboards shall be made of \_\_\_\_\_ lumber or equivalent.

- a. **2.5 cm x 10 cm (1 inch x 4 inch)**
- b. 2.5 cm x 7.6 cm (1 inch x 3 inch)
- c. 5.1 cm x 7.6 cm (2 inch x 3 inch)
- d. 5.1 cm x 2.5 cm (2 inch x 1 inch)
- e. None of the above

**Reference:** \_\_\_\_\_

84. Hand rails shall be of construction similar to a standard guardrail, but the vertical height shall be no more than \_\_\_\_\_ nor less than \_\_\_\_\_ from the upper surface of the hand rail to surface of tread, in line with face of riser or to surface of ramp.

- a. 75 cm (30 inches); **60 cm (24 inches)**
- b. 85 ~~cm~~(34 inches); 75 cm (30 inches)
- d. 95 106 cm(38 inches); 85 96 cm cm (34 inches)  
cm(42 inches); (38 inches)
- e. 122 ~~cm~~(48 inches); 108 cm (42 inches)

**Reference:** \_\_\_\_\_

85. Portable ladders used as temporary access shall extend past the landing:

- a. 0.45 m (18 inches)
- b. 0.6 m (2 feet)
- c. 0.9 m (3 feet)
- d. 1.2 m (4 feet)
- e. One-fourth the length of the ladder

**Reference:** \_\_\_\_\_

86. Portable ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder will not be greater than \_\_\_\_\_ the vertical distance between these points.

- a. one-fourth
- b. ~~one-fifth~~
- c. ~~one-sixth~~
- d. one-seventh
- e. None of the above

**Reference:** \_\_\_\_\_

**87.** Broken or damaged ladders shall:

- a.** Have temporary repairs made to them by the worker until such that they can be taken out of service.
- b.** Be reported and repaired as soon as possible.
- c.** Be immediately repaired.
- d.** Be removed from service immediately and destroyed.
- e.** Be immediately tagged "**DO NOT USE**", and withdrawn from service until restored to a condition meeting the original design.

**Reference:** \_\_\_\_\_

**88.** Ladders shall be used as work platforms only when:

- a.** Using small hand tools
- b.** Lifting heavy materials
- c.** In conjunction with ladder jacks
- d.** All of the above
- e.** Both b and c

**Reference:** \_\_\_\_\_

**89.** Belting off to an adjacent pole structure or equipment while working from an aerial lift is:

- a.** Optional
- b.** Recommended
- c.** Required
- d.** Shall not be permitted
- e.** Prohibited except when the worker is sitting on the edge of the basket

**Reference:** \_\_\_\_\_

**90.** When persons will be in or around an excavation, the excavation, the adjacent areas, and protective systems shall be inspected:

- a.** daily and as needed throughout the work shift
- b.** quarterly
- c.** monthly
- d.** weekly
- e.** None of the above

**Reference:** \_\_\_\_\_

91. Excavations less than \_\_\_\_\_ in depth and which a competent person examines and determines there to be no potential for cave-in do not require protective systems.

- a. 0.9 m (3 ft)
- b. 1.5 m (5 ft)
- c. 2.1 m (7 ft)
- d. 3m (10 ft)
- e. 4.5 m (15ft)

Reference: \_\_\_\_\_

92. Excavated material shall be stored and retained from the edge of the excavation at least:

- a. 0.15 m (6 in)
- b. **0.3 m (1 ft)**
- c. **0.6 m (2 ft)**
- d. 1.22 m (4ft)
- e. **The distance required by the designated authority**

Reference: \_\_\_\_\_

93. Where personnel are required to enter excavations over 1.2 m (4 ft) in depth, sufficient stairs, ladders, or ramps shall be provided to require lateral travel of no more than:

- a. 3m (10ft)
- b. 4.6 m (15 ft)
- d. 7.6 m (25 ft)
- 15.2 m (50 ft)
- e. 30 m (100 ft)

Reference: \_\_\_\_\_

94. Where personnel are working in an excavation over 30 m (100 ft) wide:

- a. a safe means of exit shall be provided
- b. at least two means of exit shall be provided
- c. a means of exit shall be provided at each side
- d. at least two means of exit shall be provided at each side
- e. a means of exit shall ~~be~~ provided at least every 25 feet

Reference: \_\_\_\_\_

95. The removal of trench supports from trench excavations should progress:

- a. from the bottom of the trench
- b. from the top of the trench
- c. together with the backfilling
- d. as directed by the designated authority
- e. Both a and c

**Reference:** \_\_\_\_\_

96. Electrical accidents and falls are the two biggest causes of accidents in tree work. Employees working in the proximity of electrical equipment or conductors shall never \_\_\_\_\_ the energized or potentially energized equipment.

- a. use metal ladders near
- b. use non-insulated tools on
- c. touch (directly or indirectly)
- d. tie off to

**Reference:** \_\_\_\_\_

97. During tree maintenance and removal operations climbing ropes shall not be used to \_\_\_\_\_

- a. to raise equipment
- b. to lower equipment
- c. to lower limbs or other parts of trees
- d. all of the above

**Reference:** \_\_\_\_\_

98. Pole pruners, pole saws, and similar tools shall be equipped with wood or nonmetallic poles; actuating cords shall be of \_\_\_\_\_

- a. nonconducting material
- b. aluminum
- c. stainless steel
- d. none of the above

**Reference:** \_\_\_\_\_

99. Which of the following shall be visually inspected before each days use for external defects, and for indication of possible internal damage?

- a. **cord sets**
- b. Attachment caps
- c. Plugs and **receptacles** of cord sets
- d. All the **above**
- e. None of the above

**Reference:** \_\_\_\_\_

100. The steps or rungs of permanent ladders shall be set to provide at least \_\_\_\_\_ toe space from the center line of the rungs, cleats, to the nearest permanent object in back of the ladder.

- a. 1 inch
- b. 3 inches
- c. 7 inches
- d. 10 inches
- e. 12 inches

**Reference:** \_\_\_\_\_